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ABSTRACT

A study examined the effectiveness of the Writing to Read Program as implemented in the East Gibson School Corporation by comparing scores on locally designed, teacher constructed reading and writing tests of students in the program with scores of those students exposed to traditional instruction. Subjects, 71 kindergarten students and 65 first grade students, used the Writing to Read program, a computer-based system designed to develop the writing and reading abilities of kindergarten and first grade students. The locally designed reading and writing test was administered to a control group at the end of the school year prior to the study. First grade students used the Writing to Read program in the fall semester and kindergartners used the program in the spring. The subjects were then given the reading and writing test at the end of the school year. Results indicated that: (1) kindergarten students in the program scored significantly higher than students in the traditional program; (2) first grade students in the program fared no better than their control group; (3) one kindergarten classroom scored significantly higher than the other in writing, and one first grade classroom scored significantly higher than the other two in reading; and (4) scores on the first grade writing subtests increased as the year progressed but plummeted at the end of the year. (Five tables of data are included; and 15 references, 6 additional tables, and various test instructions are attached.) (RS)

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A Comparison of Achievement in Writing to Read and Traditional Instruction at the East Gibson School Corporation

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Abstract

This study sought to determine whether Writing to Read students performed significantly higher in writing and reading than students in traditional classrooms. The scores of two groups of students were compared with each other using a one-tailed t-test. Comparisons were made for kindergarten and first grade students. Students in the first grade received Writing to Read instruction in the fall semester; kindergarteners received Writing to Reading instruction during the spring semester.

Writing to Read kindergarten students scored significantly higher in both reading and writing than students in the previous year's traditional classroom. Writing to Read first graders in both reading and writing scored no differently than students in traditional classes.

A comparison was also made between the scores of the two Writing to Read kindergarten teachers and the three Writing to Read first grade classrooms. Results indicated that one kindergarten classroom scored significantly higher than the other in writing. One first grade teacher scored significantly higher than the other two in reading. Other results were not significant.

An attempt was also made to determine whether significant gains occurred between September, November, February, and May testings of three writing subtests for first grade students. Results indicated that November, May, and February testings were higher than the September testing on all three subtests. Subtests were Copies a Story; Writes with a Beginning and an End; and Furnishes Details.

However, the May test results were significantly lower than the February testing for all three subtests.

Background of the Problem

There are millions of Americans who have never learned to read. According to Butzin (1986), there are an estimated 23 to 26 million functional illiterates, and as many as 51 million "new illiterates," that are not able to function in today's complex society. Butzin also reports that about one-third of these individuals are products of failure in their school experience.

In response to this perceived failure, a new program has emerged on the scene. The program developed by John Henry Martin is called Writing to Read. "Results have been so positive that a number of writers have hailed it as the possible solution to America's literacy crisis" (Wallace, 1985). The Writing to Read system is a computer-based system designed to develop the writing and reading of children in kindergarten and first grade. The Writing to Read system enables children to teach themselves to be active participants in the learning process. Children first learn to encode (write) and then decode (read) their own words through a multi-activity, multi-sensory approach to learning (Butzin, 1986). This program takes a "process" approach instead of the traditional "skill" approach to learning. Dr. Martin believes children should be able to write anything they can say and read anything they can write. "Writing to Read operates on the theory that children will be better prepared and more eager to learn if they are able to make the connection between the written word and ideas, notably their own" (Electronic Education, 1986).

The Writing to Read system used a variety of equipment including computers, tape recorders, audio cassettes, and typewriters. The major component was an IBM Personal Computer with a voice attachment, which enabled the computer to "talk." The Writing to Read equipment was placed in a separate classroom where children spent an hour a day learning to write and read. The center consisted of five learning stations.

At the Computer Station, the students worked for 15 minutes with a partner. The children wore headphones in order to hear the computer's voice and not disrupt the other students. During the 10 learning cycles, students respond to exercises presenting 42 phonemes within the context of familiar words. Upon completion of all cycles, children are acquainted with writing and reading sounds that constitute spoken English (IBM).

At the Work Journal Station, children listened to a taped lesson that reinforces the sounds learned on the computer. The children marked their progress in their work journals.

At the Listening Library Station, children listened to recordings of selected children's literature and followed along in the book. "The Listening Library is designed to familiarize students with words and to give them a chance to match speech with written English" (IBM).

At the Writing/Keyboard Station, children have easy access to writing tools where they know their task is to write. "IBM Personal Computers are used at the Keyboarding Station, giving young learners a faster, easier means of writing than hand lettering. Without fretting over creating each symbol by hand, they build speed in letter recognition and word formation through the use of the keyboard" (IBM).

At the Make a Word Station, children used hands-on materials, like crayons, clay, markers and chalk to experiment with forming new words (IBM).

The core of the Writing to Read system involved the alphabetic principle and phonemic spelling. The alphabetic principle is the way of combining the 26 letters of the alphabet to write every word in the English language. "The Writing to Read System uses a selected set of 42 phonemes, which are letters and combinations of letters that represent the sounds of spoken English" (IBM). After the children have learned the set of phonemes, they can write any word phonemically that they can pronounce. See Appendix I, containing examples of phoneme exercise utilized in Writing to Read.

Phonemic spelling is very important in the Writing to Read system, which provides an intitial alternative to the inconsistencies in English. This spelling system allows children to begin writing with a simplified, uncluttered task that they can understand. From the onset of the Writing to Read program, a distinction is made for the children between the two types of spelling. Through the entire program, phonemic spelling is accompanied by standard "book spelling." Appendix F contains examples of phonemic to standard transitions.

Through phonemic spelling, children can learn to write with a sense of power. A contrast between phonemic spelling and traditional spelling is indicated in the sentence below:

"i see ET come out ov the spaship Alliet gav ET some Risispisis."

(I see E.T. come out of the space ship. Elliot gave E.T. some Reese's Pieces.)

The transition to standard spelling is not hurried in the Writing to Read program. According to Butzin, Garretson, Johnson, McCrudden, and Ryter (1984), if children are prematurely rushed into using standard spelling, this could inhibit their desire to write. Children may choose

"safe" words they can spell from memory, instead of the many creative words they have in their vocabulary. Children soon discover on their own that words in their books have standard spellings. Butzin, et al. (1984) reported that the transition to standard spelling is a natural occurrence and does not need to be specifically "taught." The Appendix contains standard spelling transitions.

Many studies have been conducted to show the effectiveness of the Writing to Read system. In Ft. Meyers, Florida, three Writing to Read schools were matched with three Non-Writing to Read schools. There were 240 kindergarteners and 326 first graders involved in the study. "Both kindergarteners and first graders in Writing to Read outperformed the comparison group" (Guttinger, 1986). The biggest difference was noticed at the kindergarten level: Writing to Read children 10.2 words versus 2.6 words in the comparison group.

In Rochester, Michigan, 11 schools participated in a national Writing to Read field test. From 1983 to 1984, October and April writing samples were collected from 850 first graders. The papers were scored holistically with the scale ranging from 2 to 8. In the Writing to Read group, 57% had scores of 6, 7, or 8. In the Non-Writing to Read group, only 35% of the child had scored in the top three scores.

In the Fall of 1984, 25 out of 65 schools in Tulsa, Oklahoma adopted the Writing to Read program. The Metropolitan Pre-Reading Readiness Test (MPRRT) was given to 3,674 kindergarten children in the Spring of 1985. The 1985 results were compared to the 1984 MPRRT results. Evaluators concluded that Writing to Read children outperformed children in Non-Writing to Read programs.

Portland, Oregon implemented the Writing to Read program in 1983-1984. The evaluation was conducted by Portland Public School's Research and Evaluation Department on process rather than results. According to Guttinger (1986), teachers in Portland felt Writing to Read contributed to language and cognitive skills. Also, teachers saw an improvement in composition skills, additional self-direction, and increased self-management and confidence.

The Writing to Read Program began in Juneau, Alaska in 1985 involving four schools and 381 children. Teachers observed the Writing to Read centers for four months and reported students adjusted quickly to the movement required by moving from station to station. Students demonstrated above-average development of writing skills and the ability to read their own words (Guttinger, 1986).

In Wausau, Wisconsin, six out of thirteen elementary schools used Writing to Read programs in the Fall of 1983. On the Comprehensive Test of Basic Skills (CTBS), kindergarten children showed significant gains in word attack, vocabulary, and language expression compared to the control group. In oral expression no differences were found between the two groups. Writing to Read first graders did well on the CTBS in word attack and reading comprehension. "In their writing, Writing to Read children used a significantly greater variety of words, used more total words and spelled more words correctly" (Guttinger, 1986).

In related studies the Educational Testing Service (ETS) did an extensive two-year evaluation of the Writing to Read program. The project was led by Richard T. Murphy and Lola R. Appel. "The ETS evaluation included observations of the program's functioning,

questioning of teachers and parents, and testing of learning in reading, writing, and spelling" (ETS, 1984). More than 10,000 kindergarten and first grade students in 21 schools were observed. In the second year, 3,210 students in Writing to Read were compared to 2,379 Non-Writing to Read students. The ETS found seven major conclusions after reviewing the Writing to Read program. They are as follows:

"1. Writing to Read works.

2. Children learn with Writing to Read.

3. Children in Writing to Read write better than comparison groups.

4. In reading, kindergarten Writing to Read students have a significant advantage over comparison students. In grade one, Writing to Read students compare favorably with other students.

5. Writing to Read students perform as well as other students on spelling.

6. Teachers respond positively to Writing to Read.

7. Parents respond positively to Writing to Read." (ETS, 1984)

On the negative side, Wallace (1985), found school personnel were not being totally swept off their feet by the program. An occasional student sat at the computer bored, due to the repeated practice of a word. Students noticed letters in workbooks were not being formed entirely correctly. The need for better integration of writing and reading activities was needed. Also, students complained about the slow pace of the reading tapes. Additionally, school personnel felt a need for more emphasis on comprehension in the Writing to Read program.

Research is necessary to ascertain whether Writing to Read is effective. If Writing to Read has a positive impact on skill learning, then posttest means of students who participate in Writing to Read should be higher than mean scores of students taught by a more traditional approach.

Furthermore, if Writing to Read is universally beneficial, then the mean scores of students should be higher for all classes who participate in the program.

Finally, if Writing to Read is a worthwhile educational experience for children, then students who participate in Writing to Read should demonstrate continuous growth in writing during the study.

Statement of the Problem

General Problem: How can kindergarten and first grade students' reading and writing be improved?

Specific Problems: (1) When enrolled in the Writing to Read program, will kindergarten and first grade students read and write more effectively than those children enrolled in the traditional reading and writing programs? (2) Will all classes which participate in Writing to Read experience show comparable gains as compared to traditional reading and writing instruction? (3) Will first grade students who participate in Writing to Read show continuous growth during the program and after its conclusion?

Hypotheses:

1. Kindergarten students participating in the Writing to Read program will write more effectively than students participating in the traditional writing program.

2. Kindergarten students participating in the Writing to Read program will read more effectively than students participating in the traditional reading program.

3. First grade students participating in the Writing to Read program will write more effectively than students participating in the traditional writing program.

4. First grade students participating in the Writing to Read program will read more effectively than students participating in the traditional reading program.

5. Each of the two kindergarten classes will show gains in reading over the previous year's traditional program.

6. Each of the two kindergarten classes will show gains in writing over the previous year's traditional program.

7. Each of the three first grade classes will show gains in reading over the previous year's program.

8. Each of the three first grade classes will show gains in writing over the previous year's program.

9. First grade students will show continuous progress in reading during the program and after its conclusion.

10. First grade students wil show continuous progress in writing during the program and after its conclusion.

Methodology

Sample

The sample for this study consisted of a total of 237 kindergarten and first grade children who were attending school in Oakland City, Indiana. The sample consisted of four groups. Group 2 was a kindergarten class which consisted of children in traditional classrooms. Group 2 was a kindergarten reading group which consisted of children in Writing to Read classrooms. Group 3 was a first grade class which consisted of children in traditional classrooms. Group 4 was a first grade class which consisted of children in Writing to Read classrooms.

Procedure

First grade students participated in the Writing to Read program during the fall semester of the 1987-88 academic year. They then returned to a traditional program in the spring semester. Kindergarten students participated in Writing to Read during the spring semester of the 1987-88 academic year.

To measure achievement for the study, locally designed, teacher-constructed tests for kindergarten and first grade students were constructed. The tests measured students' reading and writing abilities. The locally designed test was administered to a control group of students in the traditional kindergarten and first grade classes at the end of the school year of 1986-87. The appropriate tests were administered to the Writing to Read kindergarten and first grade classes at the end of the 1987-88 school year.

Also, selected parts of the first grade reading tests were administered periodically during the 1987-88 school year to ascertain whether growth was occurring in writing. The students' scores on this test who participated in Writing to Read were compared with those students who did not participate in the Writing to Read program. A one-tailed t-test was used to make the comparison.

Also, students who received Writing to Read instruction in each of the two kindergarten classes were compared to the control and to each other. Similar comparisons were made for each of the three first grade classrooms. A one-way analysis of variance was used to test hypotheses regarding individual classes.

Finally, selected parts of the writing tests administered at various times during the school year were compared by a one-way analysis of variance.

Results

Kindergarten. From Table I, it can be seen that the reading score for the 63 kindergarten students in the Traditional Group was 49.8 while the mean of the 71 students who were in Writing to Read was 52.0. The t-test result of 2.44 was significant at the .01 level.

The kindergarten writing mean of 17.8 for the Traditional Group was lower than the Writing to Read Group mean of 20.45. The t-test of 3.76 was significant at the .001 level.

Results of both reading and writing tests were significantly higher for the Writing to Read kindergarten classes.

First Grade. Table I also contains the results of the first grade students who participated in the study. It should be remembered that the first grade students in the Writing to Read classes were tested at the end of the school year although they completed the Writing to Read program at midyear. The reason for this arrangement was to provide a basis for comparison with measures that were made at the end of the previous school year.

The mean reading score for the 61 students in the Traditional Group was 52.0 and the mean for the 65 Writing to Read students was 52.2. The t-test for significance was 0.03. This is clearly not significant at the .05 level.

Likewise, from Table I it can be seen that the mean for the first grade writing test decreased slightly from 30.33 for the 1986-87 Traditional Group to 30.2 for the 1987-88 Writing to Read Group. The t-test difference between the means of these two groups was -.14 which was also not significant.

Table I contains the comparisons made for each of the tests that were used to compare the traditional (1986-87) and Writing to Read (1987-88) treatment groups.

Table I

Summary Statistics for Comparison Groups

Test	Traditional (1986-87)	Writing to Read (1987-88)	t-test results
	Group 1	Group 2	
Kindergarten Reading	$\bar{X}$ = 49.8	$\bar{X}$ = 52.0	t = 2.44
	s = 5.5	s = 4.7	dp = 131
	N = 62	N = 71	significance = .01
Kindergarten Writing	$\bar{X}$ = 17.8	$\bar{X}$ = 20.45	t = 3.76
	s = 4.6	s = 3.2	dp = 131
	N = 60	N = 71	significance = .001
	Group 3	Group 4	
First Grade Reading	$\bar{X}$ = 52.0	$\bar{X}$ = 52.2	t = 0.03
	s = 6.1	s = 4.7	dp = 131
	N = 61	N =57	significance = n.s.
First Grade Writing	$\bar{X}$ = 30.33	$\bar{X}$ = 30.2	t = -.14
	s = 3.62	s = 6.1	dp = 131
	N = 61	N = 55	significance = n.s.

Comparison of kindergarten classrooms. Table II contains the comparison of the two Writing to Read kindergarten classrooms for the reading and writing tests. The mean scores for the two classrooms on the reading tests were 51.3 and 52.7. An analysis of variance was performed to determine whether there was a significant difference between the two groups. The results indicated an F ratio of .98 which was not significant at the .05 level.

The mean scores for the writing test were 18.7 and 22.1. The F ratio for these differences was 5.78, which was significant at the .001 level.

It can be concluded that the groups did not differ on the reading test but the second of the two classrooms outperformed the first on the writing test.

Comparison of first grade classrooms. Table III contains the results of an analysis of variance to ascertain whether a significant difference existed between the means of the three first grade classrooms. The means for the three classrooms were 51.1, 48.8, and 53.8. Results were tested for significance and the F ratio was 2.0 indicating that the three classrooms were significantly different. The results were significant at the .05 level.

The mean scores for the writing test were 29.8, 29.2 and 31.2. The F-ratio for the comparison of these three groups was 1.05, which was not significant at the .05 level.

Of the variations of classroom means on the reading and writing tests, only the variations on the reading test were different enough to be considered statistically significant. One first-grade teacher's classroom had significantly higher scores in reading.

T ble II

C mparisons of Kindergarten Classrooms

T st	Writing to Read Class #1	Writing to Read Class #	Analytical Variance
F ading	X = 51.3	X = 52.7	F = .98
	s = 5.0	s = 4.7	70.1
	N = 35	N = 36	significance = n.s.
W iting	X = 18.7	X = 22.1	F = 5.78
	s = 3.1	s = 2.1	70.1
	N = 35	N = 36	significance = .001

T ble III

C mparisons of First Grade Classrooms

T st	Writing to Read Class #1	Writing to Read Class #2	Writing to Read Class #3	Analysis of Variance
F ading	X = 51.1	X = 51.7	X = 53.3	F = 2.0
	s = 5.0	s = 5.0	s = 3.5	df = 2.54
	N = 19	N = 17	N = 19	significance = .05
iting	X = 30.1	X = 28.7	X = 31.2	F = 1.57
	s = 8.5	s = 4.8	s = 4.6	df = 54
	N = 19	N = 19	N = 19	significance = n.s.

Comparison of writing subtests. Table IV contains the results of comparisons that were made between four administrations of selected writing subtests for grade 1.

Subtest scores compared Skill 7, Reproducing a Story; Skill 8, Writes with an Opening and a Conclusions; and Skill 9, Introduces Details. The subtests were scored by the holistic method with scores ranging from 0 to 4 points for each student's score on each subtest.

Table IV shows that the three mean scores were: 1.47, 2.98, 3.94, 2.20 for Skill 7; 1.44, 2.84, 3.63 and 2.28 for Skill 8, 1.46, 2.73, 3.38, and 2.32 for Skill 9.

Table V contains a comparison of the three administrations for each of the three subtests. The three subtests were each compared using Tukey's W Procedure for post hoc data comparisons.

The results exceeded the critical difference of these three tests of .57, .50, and .42, respectively. Results of the three comparisons were each significant at the .001 level. Results indicated that the order of the tests was as follows: The March testing was significantly higher than the November testing. Also, significantly higher than the initial administration of the test in September 1987. Furthermore, tests of these comparisons consistently indicated that the March 1988 administration was significantly higher than the May 1988 posttest.

Table IV

Longitudinal Comparison of Selected Writing Subtests, Grade 1

	Test 1 September 1987	Test 2 November 1987	Test 3 March 1988	Test 4 May 1988
Writing Skill 7 Reproduces a Story	$\bar{X}$ = 1.47	$\bar{X}$ = 2.98	$\bar{X}$ = 3.94	$\bar{X}$ = 2.20
	s = 1.1	s = 0.94	s = 0.14	s = 0.8
	N = 57	N = 57	N = 52	N = 55
Writing Skill 8 Opening and Conclusion	$\bar{X}$ = 1.44	$\bar{X}$ = 2.84	$\bar{X}$ = 3.63	$\bar{X}$ = 2.28
	s = 1.1	s = 1.0	s = 0.00	s = 1.0
	N = 57	N = 57	N = 52	N = 55
Writing Skill 9 Introduces Detail	$\bar{X}$ = 1.46	$\bar{X}$ = 2.73	$\bar{X}$ = 3.38	$\bar{X}$ = 2.32
	s = 1.2	s = 1.1	s = 1.1	s = 0.9
	N = 57	N = 56	N = 52	N = 55
Total	$\bar{X}$ = 4.51	$\bar{X}$ = 8.59	$\bar{X}$ = 10.9	$\bar{X}$ = 6.63
	S = 3.0	s = 2.2	s = 1.5	s = 2.5

Table V

Tukey's W Procedure for Comparisons of Subtests for First Grade Students

Subtest	Critical Difference	Degrees of Freedom	Significance	
Writing Skill 7 Reproduces a Story	.57	118.2	.001	
			Mean 3	Mean 1
			Mean 4	Mean 1
			Mean 3	Mean 4
Skill 8 Opening and Conclusion	.50	118.2	.001	
			Mean 3	Mean 1
			Mean 4	Mean 1
			Mean 3	Mean 4
Skill 9 Introduces Detail	.42	118.2	.001	
			Mean 3	Mean 1
			Mean 4	Mean 1
			Mean 3	Mean 4

Discussion, Conclusions and Recommendations

This report analyzed three kinds of comparisons relative to the effectiveness of the first year of the Writing to Read program at Oakland City Elementary School in Oakland City, Indiana. Comparisons were made between the Writing to Read Group and the Traditional Group of the previous year. Comparisons were also made between the two kindergarten teachers and between the three first grade teachers. Finally, comparisons were made between periodic administrations of three selected writing subtests for the first grade students who experienced Writing to Read instruction.

Writing to Read versus Traditional Groups. The comparison of the two years of instructional treatment tested for significance and the F ratio was 2.0 indicating that the three classrooms were significantly different. The results were significant at the .05 level.

The mean scores for the writing test were 29.8, 29.1, and 31.2. The F ratio for the comparison of these three groups was 1.05, which was not significant at the .05 level.

Of the variations of classroom means on the reading and writing tests, only the variations on the reading test was significant enough to be considered statistically significant. One first grade teacher's classroom had significantly higher scores in reading.

Comparison of writing subtests. Table IV contains results of comparisons that were made between four administrations of selected writing subtests for grade 1.

Subtest scores compared Skill 7, Reproducing a Story; Skill 8, Writes with an Opening and a Conclusion; and Skill 9, Introduces

Details. The subtests were scored by the holistic method with scores ranging from 0 to 4 points for each student's score on each subtest.

Table IV shows that the three mean scores were: 1.47, 2.98, and 2.20 for Skill 7; 1.44, 2.84, and 2.28 for Skill 8; and 1.46, 2.73, and 2.32 for Skill 9.

Table V contains a comparison of the three administrations for each of the three subtests. The three produced mixed results. Kindergarteners in the Writing to Read Group fared significantly better in both reading and writing than the students from the traditional classes. However, first graders' scores were no different under the Writing to Read program than their Traditional Group counterparts.

All kindergarten and first grade teachers were enthusiastic about the program and all expected gains to occur. There are several reasonable explanations for the lack of success of the Writing to Read program in grade one.

Perhaps the first year did not provide enough time for first grade teachers to get untracked on the Writing to Read program. It is noteworthy that one of the three teachers did produce gains over the means of the previous year's classes. First grade teachers will need to continue their efforts to find answers as to what works for them in Writing to Read.

Another explanation is that the first grade criterion referenced tests may more reflect the objectives of traditional instruction than of Writing to Read. However, these objectives were specified by the first grade teachers of the school system and reflect the goals they wish to accomplish. These tests should be reexamined to determine whether they are valid measures of the first grade goals.

Comparison of Teachers. Although there was some variation in the scores of individual teachers, only the reading test for the first grade showed significant differences between teachers. It is possible that one teacher could have been assigned lower achieving students. However, no differences were found between the writing test scores for the first grade classes.

Apparently not all of the teachers were equally successful in implementing Writing to Read as far as reading achievement in the first grade is concerned.

Periodic writing tests. The three writing subtests that were compared were from scores obtained in September 1987, March 1988, and May 1988. Results indicated that the March and May administrations produced consistently higher means than the September 1987 initial testing. This shows that first grade students experienced writing gains.

However, results also indicated that the means of the March 1988 scores were higher on all three of the subtests than the May 1988 means for these subtests. This indicates some loss of writing ability had occurred after the program had ended.

Summary. Findings can be summarized as follows:

1. Kindergarten Writing to Read classes scored higher than the Traditional classes on both measures of writing and reading.

2. The first grade Writing to Read classes scored no differently than the Traditional classes in either reading or writing.

3. No difference was found in the performance of individual kindergarten Writing to Read classrooms on the reading test and no difference was found between the three first grade Writing to Read

classrooms on the writi g test. Differences that were significant were found on the first grad writing test and on the first grade reading test.

4. On all thre selected writing subtests, results consistently indicated that May, 198 and March, 1988 scores increased significantly over the initial measur of student writng in September, 1987. However, it is of concern that th March, 1988 subtest means were all significantly higher than the May, 1 38 means.

Recommendations. The Writing to Read program should be continued at Oakland City lementary School. The experience that has been gained by participating eachers will be useful should the school system expand the program to her elementary schools in the school system. Teachers should concen ate their attention on what works and what does not work for them n Writing to Read. The first grade results are of particular conce and further attention should be devoted to finding how first grad can benefit from Writing to Read. Teachers must work together in attempt to find what works for them in Writing to Read.

Further efforts a needed to ensure that the tests used in this study are still valid me ures of teachers' goals in reading and writing.

Of particular con n is the fact that writing test/subtest scores have actually decreased etween March and May for the Writing to Read classes. This pr em would not have been discovered if first grade classes had cont ed for a full year. However, the decrease in scores points to a need make instruction that occurs after Writing to Read has ended comple nt the Writing to Read instruction.

Further evaluatio nd time will tell whether Writing to Read will be beneficial in produc lasting basic skill attainment in reading and writing.

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Appendix A

Scores, September 1987 Tests

File: Writing to Read
Report: Writing Report

Alphabetical Listing

Last name	First name	w1	w2	w3	w4	w5	w6	w7	w8	w9	w10	wsum
		4	0	0	1	0	0	1	1	1	1	9
		4	3	3	3	2	2	4	1	4	3	29
		4	1	1	4	3	2	2	1	2	4	24
		4	1	3	3	4	3	0	2	2	3	25
		4	0	0	2	0	0	0	0	0	1	7
		4	0	1	4	3	1	1	1	1	4	20
		4	2	2	4	3	1	4	2	4	3	29
		4	2	2	3	1	2	2	3	3	4	26
		3	1	2	3	1	3	1	2	2	4	22
		4	0	0	4	0	0	0	1	0	3	12
		4	2	2	3	3	2	2	3	2	4	27
		4	1	1	2	2	0	1	2	1	3	17
		4	2	3	4	1	2	1	1	1	3	22
		3	0	0	1	0	0	0	0	0	2	6
		4	1	1	3	1	1	2	2	2	3	20
		4	0	0	0	0	0	0	0	0	4	8
		4	3	4	4	4	2	2	2	1	4	30
		3	0	1	1	1	0	1	2	2	4	15
		4	0	0	3	0	0	0	0	0	3	10
		4	1	0	4	4	2	2	2	1	4	24
		4	1	2	4	2	1	2	2	1	4	23
		4	1	1	3	4	2	1	1	2	3	22
		4	3	4	2	1	3	2	3	4	3	29
		4	0	0	2	0	0	1	1	1	3	12
		4	1	0	4	3	2	2	2	1	3	22
		3	0	1	2	0	0	0	1	0	1	8
		4	1	1	3	2	0	1	1	1	3	17
		4	1	0	1	1	0	1	1	1	3	13
		4	2	3	4	4	4	2	3	4	4	34
		4	3	2	3	1	2	1	0	1	3	20
		4	1	1	4	3	2	4	4	3	3	29
		4	1	0	2	2	1	1	1	0	3	15
		4	3	3	4	3	3	4	4	3	4	35
		4	3	2	4	2	2	3	3	3	3	29
		4	2	0	3	2	0	1	0	3	4	19
		4	1	0	3	1	1	1	1	1	3	16
		4	4	4	4	4	2	2	3	2	4	33
		4	2	2	4	3	2	3	1	4	4	29
		4	1	1	3	1	2	1	0	1	3	17
		3	0	0	0	0	0	0	0	0	2	5
		4	1	3	1	0	0	0	0	0	2	11
		4	0	0	1	1	0	0	0	0	2	8
		4	0	0	4	0	0	1	0	1	4	14
		2	0	0	2							
		3	2	0	4	4	2	2	1	0	3	21
		3	1	1	3	1	3	2	2	1	3	20
		4	2	1	3	4	0	1	1	2	4	22
		4	3	3	3	4	4	2	1	1	2	27
		4	2	4	3	2	2	2	2	2	4	27
		3	1	1	3	0	2	1	1	0	2	14

File: Writing to Read
Report: Writing Report

L st name	First name	w1	w2	w3	w4	w5	w6	w7	w8	w9	w10	wsum
		4	1	2	4	2	1	1	1	1	2	19
		4	1	3	3	4	1	2	2	2	4	26
		2	3	4	4	4	2	3	3	3	4	32
		4	1	1	4	3	1	3	3	2	4	26
		3	1	1	4	1	0	1	2	2	2	17
		2	0	0	1	0	0	1	0	0	4	8
		4	1	2	3	4	1	1	2	1	1	20
		4	1	3	4	2	2	3	1	1	3	24

Reading

Alphabetical Listing

Last name	First n	R1	R2	R3	R4	R5	R6	R7	R8	R9	Rten	Rel	Rtw	Rth	Rfo	Rfi	Rsum
		4	3	2	2	3	1	2	2	0	2	0	1	1	4	1	29
		4	3	4	4	4	2	4	2	4	4	3	4	4	1	3	50
		4	4	4	4	4	3	2	4	3	4	2	4	3	4	4	51
		4	4	4	4	4	4	3	4	2	4	1	3	4	3	2	50
		4	4	4	4	4	4	3	2	3	2	2	0	4	4	2	45
		4	4	3	4	4	4	4	3	3	3	2	2	4	1	2	47
		4	3	3	4	4	1	4	1	3	2	1	4	3	4	0	41
		4	4	4	4	4	2	0	4	1	4	3	0	2	2	4	42
		4	4	3	4	4	2	1	4	0	2	0	0	0	2	1	31
		4	4	4	4	4	2	1	2	1	4	2	4	4	1	1	42
		4	4	1	4	4	0	0	2	0	1	1	1	3	1	1	27
		4	4	3	4	4	2	3	4	1	2	2	4	4	1	1	43
		3	4	3	4	2	0	3	2	0	3	0	2	1	1	1	29
		4	3	2	4	3	1	0	3	2	2	1	0	3	2	0	30
		4	4	1	4	2	1	2	3	1	3	0	2	1	4	0	32
		4	4	4	4	4	4	4	4	4	2	2	2	2	1	4	49
		4	4	3	4	4	2	1	4	3	4	0	3	3	2	1	42
		4	3	2	0	2	0	1	2	0	3	0	0	0	1	0	20
		4	4	4	4	4	4	1	3	3	3	1	3	3	3	2	46
		4	3	2	4	4	2	3	4	4	3	0	2	3	2	0	39
		4	4	4	4	4	4	3	2	2	2	2	3	3	4	2	49
		4	4	4	4	4	0	1	4	2	4	3	1	4	2	3	44
		3	1	1	3	0	0	1	2	1	1	1	1	2	2	1	20
		4	4	4	4	4	2	0	2	1	4	2	2	3	3	0	39
		3	3	2	4	2	2	0	2	0	3	0	3	2	2	0	28
		4	4	4	4	3	4	1	4	0	2	1	0	4	4	0	39
		4	4	2	4	3	2	3	4	3	0	0	3	2	2	1	37
		4	4	4	4	4	4	2	4	4	4	4	2	4	4	2	54
		4	4	4	4	4	1	1	2	3	4	2	2	4	3	1	45
		4	4	4	4	4	2	3	4	0	3	2	0	3	1	0	38
		4	4	4	4	4	2	1	4	3	1	3	0	3	1	1	39
		4	4	3	4	4	4	3	2	1	1	2	4	3	4	0	43
		4	4	4	4	4	3	2	4	4	4	4	3	4	3	1	52
		3	3	2	4	3	0	2	4	1	3	1	2	3	3	1	35
		4	4	4	4	4	0	1	4	3	2	1	2	3	1	0	37
		4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	59
		4	3	3	4	4	3	1	4	2	4	0	0	3	4	1	40
		4	4	4	4	4	1	3	4	3	4	3	3	3	3	2	49
		3	3	2	4	1	2	0	2	2	1	0	2	3	4	0	29
		4	3	2	3	4	1	1	3	0	2	2	0	3	4	1	33
		4	3	3	4	2	3	1	4	2	4	0	0	4	4	1	39
		4	4	3	4	4	4	2	2	4	0	0	1	3	4	1	40
		4	3	4	4	4	4	3	2	0	2	2	1	3	2	1	38
		4	4	3	4	4	2	2	4	2	4	2	0	0	3	1	39
		4	4	3	4	4	2	1	2	2	2	1	3	4	3	1	40
		4	3	4	4	4	1	1	4	2	0	2	0	4	3	0	36
		4	4	4	4	4	1	1	3	2	3	2	3	3	3	1	42
		4	4	4	4	4	1	1	2	3	4	2	1	4	4	1	43
		4	3	4	4	2	2	0	2	1	1	1	0	4	2	2	32

Last name	First n	R1	R2	R3	R4	R5	R6	R7	R8	R9	Rten	Rel	Rtw	Rth	Rfo	Rfi	Rsum
		4	4	4	4	4	4	0	4	0	2	1	2	3	4	2	42
		4	4	4	4	4	4	2	4	3	4	2	4	4	4	3	54
		4	3	4	4	4	3	2	4	3	4	3	4	4	2	0	48
		4	4	3	3	4	2	1	3	2	1	2	3	3	1	0	36
		4	4	4	4	4	1	1	4	2	4	3	2	2	4	2	45
		4	4	2	4	3	1	1	3	0	1	0	0	3	1	1	28
		4	4	4	4	4	2	2	4	3	4	0	1	4	4	0	44
		4	4	4	4	4	0	0	3	2	4	2	2	4	1	0	38

Appendix B

Scores, November 1987 Tests

Report: WRITING TO READ

Last name	First name	R1	R2	R3	R4	R5	R6	R7	R8	R9	Rt	Re	Rtw	Rth	Rfo	Rfi	Rsum
		4	3	2	2	3	1	2	2	0	2	0	1	1	4	1	29
		4	3	4	4	4	2	4	2	4	4	3	4	4	1	3	50
		4	4	4	4	4	1	2	4	3	4	2	4	3	4	4	51
		4	4	4	4	4	4	3	4	2	4	1	3	4	3	2	50
		4	4	4	4	4	4	3	2	3	2	2	0	4	4	2	45
		4	4	3	4	4	4	4	3	3	3	2	2	4	1	2	47
		4	3	3	4	4	1	4	1	3	2	1	4	3	4	0	41
		4	4	4	4	4	2	0	4	1	4	3	0	2	2	4	42
		4	4	3	4	4	2	1	4	0	2	0	0	0	2	1	31
		4	4	4	4	4	2	1	2	1	4	2	4	4	1	1	42
		4	4	1	4	4	0	0	2	0	1	1	1	3	1	1	27
		4	4	3	4	4	2	3	4	1	2	2	4	4	1	1	43
		3	4	3	4	2	0	3	2	0	3	0	2	1	1	1	29
		4	3	2	4	3	1	0	3	2	2	1	0	3	2	0	30
		4	4	1	4	2	1	2	3	1	3	0	2	1	4	0	32
		4	4	4	4	4	4	4	4	4	2	2	2	2	1	4	49
		4	4	3	4	4	2	1	4	3	4	0	3	3	2	1	42
		4	3	2	0	2	0	1	2	0	3	0	0	0	1	0	20
		4	4	4	4	4	4	1	3	3	3	1	3	3	3	2	46
		4	3	2	4	4	2	3	4	4	3	0	2	3	2	0	39
		4	4	4	4	4	4	3	2	2	2	2	3	3	4	2	49
		4	4	4	4	4	0	1	4	2	4	3	1	4	2	3	44
		3	1	1	3	0	0	1	2	1	1	1	1	2	2	1	20
		4	4	4	4	4	2	0	2	1	4	2	2	3	3	0	39
		3	3	2	4	2	2	0	2	0	3	0	3	2	2	0	28
		4	4	4	4	3	4	1	4	0	2	1	0	4	4	0	39
		4	4	2	4	3	2	3	4	3	0	0	3	2	2	1	37
		4	4	4	4	4	4	2	4	4	4	4	2	4	4	2	54
		4	4	4	4	4	1	1	2	3	4	2	2	4	3	1	45
		4	4	4	4	4	2	3	4	0	3	2	0	3	1	0	38
		4	4	4	4	4	2	1	4	3	1	3	0	3	1	1	39
		4	4	3	4	4	4	3	2	1	1	2	4	3	4	0	43
		4	4	4	4	4	3	2	4	4	4	4	3	4	3	1	52
		4	4	4	4	4	0	1	4	3	2	1	2	3	1	0	37
		3	3	2	4	3	0	2	4	1	3	1	2	3	3	1	35
		4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	59
		4	4	4	4	4	1	3	4	3	4	3	3	3	3	2	49
		4	3	3	4	4	3	1	4	2	4	0	0	3	4	1	40
		3	3	2	4	1	2	0	2	2	1	0	2	3	4	0	29
		4	3	2	3	4	1	1	3	0	2	2	0	3	4	1	33
		4	3	3	4	2	3	1	4	2	4	0	0	4	4	1	39
		4	4	3	4	4	4	2	2	4	0	0	1	3	4	1	40
		4	3	4	4	4	4	3	2	0	2	2	1	3	2	1	38
		4	4	3	4	4	2	2	4	2	4	2	0	0	3	1	39
		4	4	3	4	4	2	1	2	2	2	1	3	4	3	1	40
		4	3	4	4	4	1	1	4	2	0	2	0	4	3	0	36
		4	4	4	4	4	1	1	3	2	3	2	3	3	3	1	42
		4	4	4	4	4	1	1	2	3	4	2	1	4	4	1	43
		4	3	4	4	2	2	0	2	1	1	1	0	4	2	2	32

File: Writing to Read
2 Page

Report: WRITING TO READ

Last na	First name	R1	R2	R3	R4	R5	R6	R7	R8	R9	Rt	Re	Rt	Rt	Rf	Rfi	Rsum
		4	4	4	4	4	4	Ø	4	Ø	2	1	2	3	4	2	42
		4	4	4	4	4	4	2	4	3	4	2	4	4	4	3	54
		4	3	4	4	4	3	2	4	3	4	3	4	4	2	Ø	48
		4	4	4	4	4	1	1	4	2	4	3	2	2	4	2	45
		4	4	3	3	4	2	1	3	2	1	2	3	3	1	Ø	36
		4	4	2	4	3	1	1	3	Ø	1	Ø	Ø	3	1	1	28
		4	4	4	4	4	Ø	Ø	3	2	4	2	2	4	1	Ø	38
		4	4	4	4	4	2	2	4	3	4	Ø	1	4	4	Ø	44

Appendix C

Chronological Scores, Selected Writing Subtests

Including March 1988 Tests

Chronological Summary

Selected First Grade Subtests

Copies Story				Writes With Beginning & Ending				Supplies Detail				Total of Three Subtests			
Sept,87	Nov,87	Mar,88	May,88	Sept,87	Nov,87	Mar,88	May,88	Sept,87	Nov,87	Mar,88	May,88	Sept,87	Nov,87	Mar,88	May,88
0	2	2	2	1	1	3	2	0	0	1	2	1	3	6	6
0	3	3	3	2	2	2	2	2	2	3	2	4	7	8	7
1	3	2	2	1	1	2	2	1	1	2	2	3	5	6	6
4	4	3	3	2	2	4	4	4	4	4	4	10	10	11	11
2	4	2	3	2	2	3	4	1	1	2	3	5	7	6	10
2	1	1	1	2	2	1	2	1	1	1	2	5	4	3	5
1	3	4	1	1	1	2	1	2	2	1	3	4	6	7	5
1	1	3	3	1	1	1	4	1	1	2	3	3	3	6	10
2	2	2	3	3	3	3	4	4	4	3	3	9	9	8	10
1	3	2	4	1	1	4	4	0	0	2	4	2	4	8	12
2	2	4	4	3	3	3	4	2	2	4	4	7	9	12	12
1	1	3	1	0	0	3	1	1	1	0	2	2	2	6	4
0	0	2	1	0	0	2	1	0	0	2	2	0	0	6	4
0	1	1	2	0	0	2	2	0	0	1	1	0	1	4	5
1	2	3	1	0	0	2	0	1	1	3	0	2	3	8	1
-	3	1	2	-	0	0	2	-	0	0	1	-	3	1	5
1	0	3	3	1	1	3	3	1	1	2	3	3	2	8	9
2	2	3	3	2	2	4	3	2	2	3	3	6	6	10	9
1	2	3	2	2	2	3	3	1	1	3	2	4	5	9	7
2	2	2	1	1	1	4	2	2	2	4	1	5	5	10	4
0	0	3	2	0	0	2	1	0	0	1	1	0	0	6	4
2	2	4	2	3	3	3	2	3	3	4	2	8	10	11	6
0	2	1	1	0	0	4	1	0	0	2	2	0	2	7	4
1	1	2	2	2	2	4	2	2	2	4	2	5	5	10	6
2	3	3	1	2	2	3	1	1	1	2	1	5	6	8	3
1	1	2	1	0	0	3	2	1	1	3	2	2	2	8	5
3	2	4	2	3	3	3	2	3	3	3	1	9	8	10	5
1	1	3	1	0	0	4	2	3	3	3	3	4	4	10	8
3	3	4	2	1	1	4	2	4	4	4	3	8	8	12	7
0	1	4	1	0	0	4	2	0	0	3	1	0	1	11	4
1	1	4	1	1	1	2	1	2	2	1	2	4	4	7	4
2	1	3	2	1	1	4	2	1	1	2	2	4	3	9	6
2	1	3	3	2	2	3	3	2	2	3	2	6	5	9	8
3	2	4	2	3	3	2	2	3	3	4	2	9	8	10	6
-	1	3	2	-	3	3	3	-	2	3	2	-	6	9	7
3	0	4	3	1	1	4	3	1	1	4	3	5	2	12	9
4	4	4	3	1	1	4	3	4	4	4	3	9	9	12	9
0	1	2	2	1	1	1	?	0	0	2	2	1	2	5	6
1	3	3	2	1	1	3	2	1	1	3	2	3	5	9	6
2	0	4	2	2	2	3	3	2	2	4	2	6	4	11	7
0	1	3	2	0	0	2	1	0	0	2	3	0	1	7	6
2	1	4	3	3	3	2	3	4	4	3	3	9	8	9	9
1	1	2	1	1	1	3	1	1	1	2	2	3	3	7	4

Sept,87	Nov,87	Mar,88	May,88	Sept,87	Nov,87	Mar,88	May,88	Sept,87	Nov,87	Mar,88	May,88	Sept,87	Nov,87	Mar,88	May,88
2	0	3	3	2	2	4	3	1	1	3	3	5	3	10	9
1	3	4	2	1	1	3	2	1	1	2	3	3	5	9	7
4	3	4	3	4	4	3	3	3	3	4	3	11	10	12	9
4	1	4	3	4	4	3	3	3	3	4	3	11	8	11	9
1	2	3	3	1	1	2	3	1	1	2	2	3	4	7	8
2	1	3	2	2	2	1	1	1	1	4	2	5	4	8	5
1	0	4	1	1	1	1	1	0	0	3	1	2	1	8	3
-	1	4	3	-	2	3	3	-	2	4	3	-	5	11	9
1	1	3	2	0	0	2	1	0	0	3	1	1	1	8	4

Appendix D

Scores, May 1988 Writing Tests

File: Writing to Read
Report: Oakland City
Selection: Test equals WL
Grade equals Kindergarten

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	Total
4	4	4	3	1	4										16
4	4	4	3	4	4										23
4	4	4	3	2	3										20
3	4	4	3	3	3										20
4	4	3	4	3	4										20
4	4	4	4	3	1										20
3	3	4	1	1	3										15
4	4	3	2	3	4										20
1	4	4	2	3	2										16
3	4	4	3	3	4										21
3	3	4	3	3	3										19
4	4	4	4	4	4										24
3	4	4	3	4	4										
3	3	3	0	1	0										10
4	4	4	3	1	1										17
4	4	4	2	4	3										21
4	4	4	3	3	3										21
4	4	3	3	2	3										19
4	4	4	3	4	3										20
3	4	3	3	3	4										20
3	4	4	3	2	1										17
1	3	3	0	0	2										9
4	4	4	3	3	2										20
3	4	4	4	3	3										21
2	4	3	2	1	2										14
3	4	4	3	1	3										18
4	4	3	4	3	4										20
4	4	3	3	3	3										20
3	4	3	4	1	3										18
4	4	4	4	2	2										
3	4	4	3	4	3										21
1	4	4	1	4	2										16
4	4	4	3	4	3										
4	4	4	4	4	2										
3	4	4	3	4	3										21

File: Writing to Read
Report: Oakland City
Selection: Test equals WV
Grade equals Kindergarten

C1	C2	C3	C4	C5	C6	Total
4	4	4	4	4	3	23
4	4	4	4	4	4	24
4	4	4	4	1	4	21
4	4	4	4	4	4	24
4	2	3	2	4	4	19
4	4	3	3	3	0	
4	4	4	4	3	4	23
4	3	4	1	4	2	18
4	4	3	4	4	3	
4	4	4	4	4	4	24
4	4	4	4	4	4	24
4	4	4	3	4	4	23
4	4	4	4	4	4	24
4	4	4	4	4	4	24
4	3	4	4	0	4	19
4	3	4	3	4	4	
4	4	4	4	4	4	24
3	4	4	3	4	3	21
4	4	4	4	3	4	23
3	4	4	4	3	4	
4	4	4	4	4	4	24
4	4	4	3	3	4	22
4	4	4	4	4	4	24
4	4	3	4	4	3	22
4	4	4	4	4	4	24
3	4	4	4	4	4	23
4	3	4	3	3	4	21
4	4	4	4	4	4	24
3	4	4	4	4	3	
4	4	4	4	4	4	24
4	4	4	4	4	4	24
4	3	4	4	3	3	21
4	4	4	4	4	4	24
4	4	4	4	3	4	23
4	4	4	3	4	4	23
4	4	4	4	3	3	

File: Writing to Read
Report: Oakland City
Selection: Test equals W
Grade equals 1

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	Total
4	2	3	4	3	3	2	2	2	4	29
4	3	3	4	2	2	2	2	2	4	28
4	3	4	4	4	2	1	1	2	4	29
4	3	4	4	4	3	3	2	2	4	33
4	4	4	4	4	3	3	4	4	4	38
4	4	4	4	4	4	3	4	3	4	38
4	1	4	4	2	1	1	2	2	4	25
4	3	4	4	4	3	1	1	3	4	31
4	4	3	4	2	2	3	4	3	4	33
4	4	4	4	4	4	3	4	3	4	38
4	3	4	3	4	3	4	4	4	3	36
4	4	4	4	4	4	4	4	4	3	39
4	1	1	3	4	2	1	1	2	4	23
3	2	2	3	3	2	2	2	1	3	23
0	0	0	0	0	1	1	0	0	0	2
4	1	4	4	2	1	2	2	1	4	25
4	3	4	4	2	3	3	3	3	4	33
4	4	4	4	4	3	2	3	2	4	34

File: Writing to Read
Report: Oakland City
Selection: Test equals WG
Grade equals 1

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	Total
4	4	3	4	4	3	1	2	1	3	29
4	4	2	3	2	1	2	1	1	1	21
4	4	4	2	2	2	2	2	2	4	28
3	4	3	4	4	3	3	2	3	4	33
4	4	3	4	2	3	2	3	4	4	33
4	1	4	3	2	1	1	1	1	2	20
4	3	3	4	3	2	1	2	2	4	28
4	4	4	4	4	2	2	2	1	2	29
4	4	2	4	3	3	3	2	3	3	31
4	3	4	4	3	2	2	2	3	4	31
4	3	4	3	2	1	1	2	1	4	25
4	4	3	4	2	2	1	1	2	3	26
4	4	4	4	3	3	2	2	2	3	31
4	4	4	4	4	3	3	3	2	2	
4	4	4	4	3	2	2	2	2	4	31
4	4	4	4	4	3	2	3	2	4	34
4	4	4	4	4	3	3	3	3	4	36

File: Writing to Read
Report: Oakland City
Selection: Test equals WY
Grade equals 1

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	Total
4	4	4	4	3	3	3	3	3	4	35
4	2	4	3	3	3	2	2	2	4	29
4	2	3	4	3	2	2	2	2	4	
4	3	4	4	2	1	2	2	2	4	28
4	3	4	4	3	3	2	3	2	4	32
4	3	4	3	3	2	2	1	3	4	29
4	4	4	4	4	4	3	3	3	4	37
4	3	2	3	2	1	1	1	2	4	23
4	4	4	3	4	3	3	3	3	4	35
4	3	4	4	4	2	2	2	3	4	32
4	4	4	4	3	4	3	3	3	4	36
4	4	4	4	4	2	3	3	3	4	35
4	4	4	4	4	3	3	2	3	4	35
4	4	4	4	3	3	3	3	2	3	33
2	3	4	4	3	1	2	1	2	4	26
4	4	4	4	4	3	3	3	3	4	36
4	2	2	4	3	2	1	1	1	3	23
4	4	4	4	3	3	3	3	3	3	34
3	2	3	4	3	2	2				25

Appendix E

Scores, May 1988 Reading Tests

File: Writing to Read
Report: Oakland City
Selection: Test equals RL
Grade equals Kindergarten

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	Total
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	1	4	4	4	4	2	4	4	4	51
4	4	3	3	3	4	4	2	2	4	4	4	4	4	49
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
3	4	4	3	3	3	3	1	3	0	4	4	3	3	41
4	4	4	4	3	4	4	3	4	4	4	4	4	4	54
3	4	2	3	4	4	4	3	1	4	2	4	3	4	45
4	4	4	3	4	4	4	4	4	4	4	4	4	4	55
4	4	4	4	3	4	4	1	4	4	4	4	4	4	52
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	3	4	4	4	4	4	4	55
4	4	4	4	4	4	4	3	2	4	4	1	2	4	48
3	4	4	2	1	0	4	0	2	4	4	3	3	4	38
4	3	4	4	4	4	4	3	0	4	4	4	4	4	50
4	4	4	4	4	4	4	3	4	4	4	4	4	4	55
4	3	4	2	3	3	4	4	2	3	4	4	4	4	48
4	4	4	4	4	4	4	3	4	4	4	4	4	4	55
4	4	4	4	4	4	4	4	3	4	3	4	4	4	54

File: Writing to Read
Report: Oakland City
Selection: Test equals RV
Grade equals Kindergarten

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	Total
4	4	3	4	4	4	4	4	2	4	4	4	4	4	53
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	3	2	4	3	3	2	2	2	2	4	43
4	4	3	4	4	1	3	3	3	1	3	0	2	4	39
4	4	4	4	4	4	4	4	4	2	4	4	4	4	54
4	4	4	3	4	4	4	2	1	4	4	3	2	4	47
4	4	4	4	3	4	4	2	4	0	4	4	3	4	48
4	4	4	4	4	1	4	4	4	4	4	4	3	4	52
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	4	3	4	4	4	4	4	55
4	4	4	3	4	4	4	4	4	4	4	4	4	4	55
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
3	4	4	4	4	4	4	4	4	4	4	4	4	4	55
4	4	4	4	4	4	4	4	4	4	4	4	0	4	52
4	4	4	4	4	4	4	4	3	4	4	4	2	4	53
4	4	4	4	4	4	4	4	4	4	3	4	4	4	55
4	4	4	4	4	4	4	4	3	4	4	0	3	4	50
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
3	4	4	4	4	4	4	3	3	0	3	3	3	4	46
4	4	4	4	4	4	4	4	3	4	4	4	4	4	55
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	4	3	4	4	4	4	4	55
4	4	4	4	4	4	4	2	0	4	4	4	4	4	50
4	4	4	2	3	4	4	2	0	3	4	4	0	4	42
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	1	1	4	4	3	3	0	2	4	3	3	4	40
4	4	4	3	4	4	4	4	4	4	4	4	3	4	54
4	4	4	3	4	4	4	3	3	4	4	4	3	4	52
4	4	3	3	4	2	4	4	3	4	4	4	4	3	50
4	4	4	4	4	4	4	2	3	4	4	4	4	4	53
4	4	4	4	3	4	4	4	3	4	4	3	4	3	52
4	4	4	3	2	4	3	3	4	4	4	4	2	4	49
3	4	2	4	3	4	4	1	4	4	3	4	3	3	46
4	4	4	4	4	4	4	4	1	4	4	4	4	4	53
4	4	4	3	4	4	4	4	2	2	4	4	4	4	51
4	4	4	4	4	4	4	4	3	4	4	4	4	4	55
4	4	4	4	4	4	4	3	3	4	4	4	4	4	54
4	3	4	3	4	4	4	4	4	3	4	4	4	4	53
4	4	4	4	4	4	4	3	4	4	4	4	4	4	55
4	4	3	4	3	4	4	4	3	0	3	3	2	4	45
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	3	4	1	4	4	4	2	3	4	49
4	4	3	4	3	4	4	4	4	4	4	3	4	4	53
4	4	3	3	2	4	3	4	4	4	4	3	3	4	49
4	4	4	4	4	4	4	4	3	4	4	4	4	4	55
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56
4	4	4	4	4	4	4	4	4	4	4	4	4	4	56

File: Writing to Read
Report: Oakland City
Selection: Test contains R
Grade contains 1

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	Total
4	3	2	4	2	3	1	4	1	4	4	3	4	1	3	43
4	4	3	4	4	4	4	4	4	4	2	3	4	4	4	56
4	4	3	4	4	4	4	3	4	4	3	3	4	4	4	56
4	4	4	4	4		3	4	4	3	4	3	4	1	3	53
3	4	2	4	4	4	0	4	3	4	3	3	3	1	0	42
4	4	2	4	4	3	4	4	4	4	4	4	4	4	4	57
4	4	3	4	4	3	3	4	4	4	4	3	4	0	4	52
4	4	3	5	5	4	4	5	5	5	5	4	5	0	4	57
4	4	3	4	4	4	4	4	3	4	3	3	4	4	4	56
4	4	3	4	4	4	4	4	2	4	0	4	4	1	4	50
4	4	3	4	4	4	4	4	3	4	2	3	4	1	3	51
4	4	3	4	2	4	3	0	1	2	3	3	2	4	2	41
4	0	1	4	1	1	1	1	2	3						18
3	4	3	4	4	4	4	4	4	4	3	3	4	1	4	53
4	4	3	4	4	3	4	4	4	4	4	4	4	1	4	55
4	4	3	4	4	4	3	4	4	4	4	2	4	1	4	53
4	4	4	4	3	2	2	2	2	4						31
4	4	3	4	4	4	2	4	2	4	1	2	4	4	0	46
4	3	2	4	4	4	3	3	3	4	4	3	4	1	3	52
4	4	3	4	4	3	4	4	4	3	4	2	4	2	4	53
4	4	3	4	4	3	4	4	4	4	3	3	4	4	4	56
4	4	3	4	4	4	3	2	3	4	0	4	2	1	3	45
4	4	3	4	4	4	4	4	3	4	2	3	4	4	2	56
4	4	3	4	4	4	4	4	4	4	3	4	4	4	4	58
4	4	3	4	4	4	4	4	3	4	3	3	4	3	4	55
4	4	3	4	4	3	2	4	4	4	4	3	4	3	3	53
4	4	3	4	4	4	2	4	4	4	3	4	4	1	3	52
4	4	3	4	4	3	3	4	3	4	4	3	4	4	4	55
4	4	3	4	4	4	4	4	3	4	4	3	4	3	4	56
4	4	3	4	4	4	4	4	4	4	3	3	4	4	4	57
4	4	3	5	5	4	5	5	5	5	5	4	5	1	4	54
4	4	3	4	4	4	3	4	3	4	3	4	4	4	3	55
4	4	3	4	4	4	2	4	3	3	4	3	4	4	3	53
4	4	3	4	4	4	4	4	2	4	2	2	4	1	2	48
4	4	3	4	4	4	4	2	3	1	3	4	4	1	3	48
4	4	3	4	4	2	4	4	4	4	3	3	4	4	4	55
4	4	3	4	4	3	4	4	4	4	4	4	4	4	4	58
4	3	3	4	4	3	2	4	4	4	1	3	4	2	4	49
4	4	3	4	4	4	3	4	2	4	4	3	4	4	4	55
4	4	2	4	4	4	3	4	2	4	4	3	4	4	4	46
4	3	2	4	4	3	2	4	0	3	3	2	4	4	1	43
4	4	3	4	4	3	2	4	4	0	1	0	4	1	2	40
4	4	3	4	4	3	2	4	3	0	3	3	4	3	3	47
4	4	3	4	4	4	3	4	4	4	2	3	4	4	4	55
4	4	3	4	4	4	4	4	4	4	3	3	4	4	4	60
4	4	3	3	4	4	3	4	4	4	3	1	3	4	2	50
4	4	3	4	4	4	4	4	4	4	3	3	4	3	4	56
4	4	3	4	4	2	4	4	4	4	3	3	4	4	4	55
4	4	3	4	4	4	4	4	2	4	1	3	4	3	4	52

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	Total
4	4	3	4	4	3	3	4	2	4	3	4	4	4	4	54
4	4	3	4	4	3	3	4	4	4	4	3	4	1	4	53
4	4	3	4	4	4	4	2	2	4	4	3	4	1	3	50
4	4	3	4	4	4	4	4	4	4	4	3	4	2	4	56
4	4	3	4	4	4	4	2	3	4	3	4	4	4	4	55
4	4	3	4	4	4	4	4	2	4	1	3	4	4	1	50
4	4	2	4	4	3	4	4	3	4	4	3	4	1	1	49
4	4	3	4	4	4	3	4	3	4	4	3	4	4	2	54

Appendix F

Scores, May 1987 Tests (Control Group)

K IDG, MAY '87,

	SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9	SK10	SK11	SK12	SK13	SK14	TOTAL
	4	3	3	4	4	4	4	4	3	0	4	4	4	4	49.00
	4	4	4	4	4	4	4	3	3	0	4	4	4	4	50.00
	4	3	4	4	4	4	4	2	4	4	4	4	4	4	53.00
	4	4	4	4	4	4	4	2	3	4	4	4	4	4	53.00
	4	4	3	3	4	4	4	4	2	3	4	3	4	4	50.00
	4	4	4	4	4	4	4	4	2	4	4	4	4	4	54.00
	4	4	4	3	4	3	4	0	3	4	4	4	4	4	49.00
	4	3	3	4	3	1	4	1	1	1	2	1	3	3	34.00
	4	4	4	3	4	4	4	4	2	4	3	4	3	4	51.00
	4	3	3	4	4	4	4	4	4	4	0	4	4	4	50.00
	3	4	4	3	4	4	4	4	4	4	4	4	4	4	54.00
	4	4	3	4	3	4	4	4	3	4	4	4	3	4	52.00
	4	4	4	2	4	4	3	4	4	4	4	4	4	4	53.00
	3	4	4	2	4	4	4	2	2	4	4	2	3	4	46.00
	4	4	4	4	3	3	3	3	2	2	4	4	4	4	48.00
AVERAGE:	3	3	3	3	3	3	3	3	2	3	3	3	3	3	49.70
	Sees likeness and differences	Recognizes upper case letters out of sequence	Recognizes lower case letters out of sequence	Knows alphabet in sequence	Matches upper and lower case letters	Knows rhyming pictures	Classifies	Recalls sequence of stories read aloud	Predicts outcomes	Understands left and right	Recognizes and uses initial consonants	Recognizes and uses final consonants	Short vowel sound to picture	Recognizes eight basic color words	

K RDG, MAY '87,

	SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9	SK10	SK11	SK12	SK13	SK14	TOTA
	4	4	3	2	4	4	4	2	1	4	4	3	2	3	44.0
	4	4	4	4	4	4	4	4	2	4	4	4	4	4	54.0
	4	4	4	0	4	2	4	3	3	4	3	3	2	3	43.0
	4	4	3	4	3	4	4	3	4	4	4	4	3	4	52.0
	4	4	4	3	4	4	3	4	4	4	4	4	3	4	53.0
	4	4	4	4	3	4	4	4	3	4	4	4	3	4	53.0
	4	4	4	3	3	4	4	3	3	4	2	3	0	3	44.0
	4	4	4	4	4	4	4	4	2	4	4	4	4	4	54.0
	4	4	4	4	4	4	4	4	4	4	4	4	2	4	54.0
	4	4	4	4	4	4	4	2	1	4	4	4	3	4	50.0
	4	4	2	3	2	2	4	4	2	4	4	3	3	3	44.0
	4	4	3	1	3	2	3	4	4	4	4	2	1	4	43.0
	4	4	3	3	3	4	2	3	4	4	0	4	1	4	43.0
	4	4	4	2	4	0	4	2	1	4	4	2	2	4	41.0
	4	4	4	3	4	4	4	4	1	4	4	4	2	4	50.0
	4	4	3	1	3	4	4	4	1	4	4	3	0	4	43.0
	4	4	4	4	4	4	4	4	4	4	4	4	3	4	55.0
AVERAGE:	4	4	3	2	3	3	3	3	2	4	3	3	2	3	48.4

SK1 Sees likeness and differences
SK2 Recognizes upper case letters out of sequence
SK3 Recognizes lower case letters out of sequence
SK4 Knows alphabet in sequence
SK5 Matches upper and lower case letters
SK6 Knows rhyming pictures
SK7 Classifies
SK8 Recalls sequence of stories read aloud
SK9 Predicts outcomes
SK10 Understands left and right
SK11 Recognizes and uses initial consonants
SK12 Recognizes and uses final consonants
SK13 Short vowel sound to picture
SK14 Recognizes eight basic color words

K RDG, MAY '87,

—	SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9	SK10	SK11	SK12	SK13	SK14	TOTAL
	4	4	4	3	3	3	4	4	2	4	4	3	1	4	45.00
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	56.00
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	56.00
	4	4	4	3	4	4	4	4	4	4	4	4	4	4	55.00
	4	4	4	4	4	4	4	3	3	1	3	4	4	4	50.00
	4	4	4	4	4	4	4	4	3	2	4	4	4	4	53.00
	4	4	4	4	4	4	4	4	3	4	4	4	4	4	55.00
	4	4	4	4	4	4	4	1	3	4	4	4	3	4	51.00
	4	4	4	4	4	4	4	2	4	4	4	4	2	4	52.00
	4	3	4	3	4	4	4	2	4	4	4	4	4	4	52.00
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	56.00
	4	4	4	1	4	4	4	4	3	4	4	4	3	4	51.00
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	56.00
	4	4	4	3	4	4	4	4	4	4	4	4	4	4	55.00
	4	4	4	4	4	4	4	4	3	4	4	4	3	4	54.00
	4	3	4	2	3	0	3	3	3	2	4	0	1	2	34.00
	4	4	4	3	3	4	4	4	2	4	4	4	2	4	50.00
	4	4	4	4	3	4	4	2	3	3	4	3	2	3	47.00
	4	4	4	4	4	4	4	4	4	4	4	4	2	4	54.00
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	56.00
	4	4	4	4	4	4	4	3	4	4	4	4	4	4	55.00
	4	4	4	3	4	4	4	4	4	3	4	3	2	3	50.00
	4	4	4	4	4	4	4	4	4	4	4	4	3	4	55.00
	4	4	4	3	4	4	4	2	0	4	4	3	3	4	47.00
	4	4	4	1	4	3	4	2	1	4	3	2	3	4	43.00
	4	4	4	4	4	4	4	4	4	0	4	3	4	4	51.00
	4	4	4	2	4	4	4	3	3	4	3	4	0	4	47.00
	3	4	3	1	3	1	1	2	4	4	2	2	2	1	35.00
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	56.00
	3	4	4	2	3	4	4	2	4	3	4	3	2	4	46.00
AVERAGE:	3	3	3	3	3	3	3	3	3	3	3	3	3	3	50.80

52 SCORES

57

Sees likeness and differences

Recognizes upper case letters out of sequence

Recognizes lower case letters out of sequence

Knows alphabet in sequence

Matches upper and lower case letters

Knows rhyming pictures

Classifies

Recalls sequence of stories read aloud

Predicts outcomes

Understands left and right

Recognizes and uses initial consonants

Recognizes and uses final consonants

Short vowel sound to picture

Recognizes eight basic color words

$\bar{X} = 47.52$

$S = 5.45$

$N = 62$

74

56

KINDERGARTEN WRITING, MAY, '87

	SK1	SK2	SK3	SK4	SK5	SK6	TOTAL
	4	4	4	3	1	0	16.00
	4	4	4	3	1	0	16.00
	4	4	4	3	3	4	22.00
	4	3	3	3	2	0	15.00
	0	4	4	3	3	0	14.00
	4	4	4	3	2	4	21.00
	4	3	4	1	2	0	14.00
	4	4	4	1	0	0	13.00
	4	4	4	2	2	4	20.00
	4	4	4	4	1	4	21.00
	4	4	4	3	1	4	20.00
	4	4	4	4	3	4	23.00
	4	4	4	3	2	4	21.00
	4	4	4	2	3	0	17.00
	0	4	2	0	2	0	8.00
AVERAGE:	3	3	3	2	1	1	17.40

SK1 — Writes first and last names

SK2 — Reproduces three letter words

SK3 — Reproduces letters

SK4 — Copies simple sentence

SK5 — Has a sense of a sentence as a complete unit of discourse

SK6 — Writes ABC's in sequence

KINDERGARTEN WRITING, MAY, '87

	SK1	SK2	SK3	SK4	SK5	SK6	TOTAL
	4	3	4	2	2	0	15.00
	4	4	4	4	2	0	18.00
	4	4	4	1	0	4	17.00
	0	4	4	0	1	0	9.00
	4	4	4	4	3	4	23.00
	4	4	4	3	2	4	21.00
	0	1	0	0	0	0	1.00
	4	4	4	2	3	4	21.00
	4	4	3	2	0	4	17.00
	4	4	4	3	0	0	15.00
	4	4	3	1	3	0	15.00
	0	4	4	2	2	0	12.00
	4	4	4	2	1	0	15.00
	4	4	4	3	2	0	17.00
	4	4	4	4	3	0	19.00
	0	4	4	1	0	4	13.00
	4	4	3	1	3	0	15.00
AVERAGE:	3	3	3	2	1	1	15.47

SK1 — Writes first and last names

SK2 — Reproduces three letter words

SK3 — Reproduces letters

SK4 — Copies simple sentence

SK5 — Has a sense of a sentence as a complete unit of discourse

SK6 — Writes ABC's in sequence

KINDERGARTEN WRITING, MAY, '87

	SK1	SK2	SK3	SK4	SK5	SK6	TOTAL
	0	4	2	2	2	4	14.00
	4	4	4	3	3	4	22.00
	4	4	4	3	2	4	21.00
	4	3	4	2	4	4	21.00
	4	4	4	4	3	4	23.00
	4	4	4	3	1	4	20.00
	4	4	4	3	2	4	21.00
	4	4	4	4	1	4	21.00
	4	4	4	4	3	4	23.00
	4	4	4	3	1	4	20.00
	4	4	4	4	2	4	22.00
	0	4	4	4	2	4	18.00
	4	4	4	4	3	4	23.00
	4	4	4	2	4	4	22.00
	4	4	4	3	3	0	18.00
	4	1	3	0	1	0	9.00
	4	4	4	3	0	0	15.00
	0	3	4	1	1	0	9.00
	0	4	4	4	3	4	19.00
	4	4	4	4	2	4	22.00
	4	4	4	3	2	4	21.00
	0	4	4	4	4	4	20.00
	4	4	3	4	3	4	22.00
	4	4	4	2	2	0	16.00
	0	4	4	4	0	4	16.00
	4	4	4	4	3	4	23.00
	4	3	4	4	2	4	21.00
	4	4	4	4	4	4	24.00
	0	4	3	3	4	0	14.00
AVERAGE:	3	3	3	3	2	3	19.31
AVERAGE:	3	3	3	2	2	2	17.77

Writes first and last names

Reproduces three letter words

Reproduces letters

Copies simple sentence

Has a sense of a sentence as a complete unit of discourse

Writes ABC's in sequence

Sample Size = 60
Mean = 17.78
5 = 4.53
[illegible] = [illegible]
[illegible] = [illegible]

FIRST GRADE, REMEDIAL, S1

SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9	SK10	SK11	SK12	SK13	SK14	SK15	TOTAL
4	4	4	4	4	0	4	4	4	3	4	4	4	4	4	55.00
4	4	4	4	4	3	3	2	4	2	3	2	4	1	1	49.00
4	4	3	4	4	4	2	4	3	4	2	2	4	2	1	49.00
4	4	4	4	4	4	1	4	4	4	3	3	4	2	4	53.00
4	4	4	4	4	4	3	4	4	4	4	3	4	4	4	58.00
4	4	2	4	2	2	3	3	0	0	1	1	1	2	0	29.00
4	4	4	4	4	4	4	4	3	4	4	3	4	4	3	57.00
4	4	4	4	4	4	2	4	2	4	4	3	4	4	3	54.00
4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	59.00
4	4	4	4	4	4	3	4	3	4	2	2	4	3	3	52.00
4	3	4	4	4	4	4	2	4	4	3	2	4	3	4	53.00
4	4	4	4	4	4	3	3	4	3	3	3	4	4	0	51.00
4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	59.00
4	4	3	4	4	4	2	2	4	4	4	3	4	4	4	54.00
4	4	4	4	4	4	4	3	3	4	4	2	4	3	4	55.00
4	4	4	4	4	4	3	2	4	4	3	3	4	3	4	54.00
4	4	4	4	4	4	4	4	4	4	4	3	4	2	3	56.00
4	4	3	4	4	4	3	3	4	2	3	3	4	3	2	50.00
4	4	4	4	4	4	4	2	3	4	3	4	4	4	2	54.00
4	4	4	4	4	4	1	2	1	4	1	2	4	2	2	43.00
4	4	3	4	4	4	3	4	4	4	4	4	4	4	4	58.00
4	4	4	4	4	4	2	3	3	4	2	3	3	3	3	50.00
4	4	4	4	4	3	4	4	4	2	4	4	4	4	1	52.00
4	4	4	4	4	4	2	4	1	4	1	3	4	4	3	50.00
AVERAGE: 4	3	3	4	3	3	2	3	3	3	3	2	3	3	2	52.30

Identifies upper and lower case letters out of sequence

Matches partner letters

Identifies initial, final and medial consonants

Uses initial consonants to decode

Uses final consonants to decode

Distinguishes between real and imaginary events

Selects appropriate title for a story

Follows simple written directions

Identifies rhyming words

Identifies short and long vowel sounds

Writes word for one syllabe word

Matches components of a contraction

Identifies digraphs and blends with sounds

Identifies three sounds of y

Puts words in alphabetical order to the first letter

FIRST GRADE READING '87

SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9	SK10	SK11	SK12	SK13	SK14	SK15	TOTAL
4	4	4	4	4	4	4	4	4	4	3	3	4	3	4	55.00
4	4	4	4	4	3	4	3	0	4	2	2	4	3	4	49.00
4	4	4	4	4	4	4	4	4	4	4	3	4	1	3	55.00
4	4	4	4	4	1	4	4	3	4	4	3	4	2	2	51.00
4	4	4	4	4	4	4	4	2	0	3	2	4	1	4	48.00
4	4	4	4	4	3	4	4	4	4	4	3	4	1	4	55.00
4	4	4	4	4	4	4	4	2	4	3	4	4	1	3	54.00
4	4	4	3	4	3	3	2	1	4	3	2	4	2	1	46.00
4	4	4	4	4	0	2	3	3	4	1	2	4	1	4	44.00
3	4	4	4	4	4	2	3	1	3	3	3	4	1	0	46.00
4	4	4	4	4	3	4	3	4	3	4	4	4	1	3	53.00
4	4	3	4	4	4	2	2	2	2	4	3	4	1	2	48.00
4	4	4	4	3	3	3	4	2	4	4	3	4	1	4	51.00
4	4	4	4	4	4	3	4	4	4	3	4	4	1	4	55.00
4	4	4	4	4	4	2	2	4	4	4	4	4	3	4	54.00
4	4	1	4	3	2	0	2	1	2	2	2	4	3	0	36.00
4	4	4	4	4	2	0	2	1	2	2	2	4	3	0	38.00
4	4	4	4	4	4	3	4	1	4	2	4	4	1	4	49.00
4	4	4	4	4	4	4	4	3	4	3	4	4	2	4	58.00
AVERAGE: 3	4	3	3	3	3	3	3	2	3	3	3	4	2	3	49.70

Identifies upper and lower case letters out of sequence

Matches partner letters

Identifies initial, final and medial consonants

Uses initial consonants to decode

Uses final consonants to decode

Distinguishes between real and imaginary events

Selects appropriate title for a story

Follows simple written directions

Identifies rhyming words

Identifies short and long vowel sounds

Writes word for one syllabe word

Matches components of a contraction

Identifies digraphs and blends with sounds

Identifies three sounds of y

Puts words in alphabetical order to the first letter

FIRST GRADE READING '87

	SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9	SK10	SK11	SK12	SK13	SK14	SK15	TOTAL
	4	4	4	4	4	4	3	4	4	4	4	3	4	4	4	58.00
	4	3	4	4	4	3	3	2	3	4	3	3	4	4	4	52.00
	4	4	4	4	4	4	3	4	3	4	3	3	4	4	2	54.00
	4	4	4	4	4	4	3	3	3	4	3	3	4	4	3	54.00
	4	4	4	4	4	4	3	2	4	4	4	3	4	4	4	56.00
	4	4	2	4	3	2	0	2	0	4	3	3	4	2	4	56.00
	4	4	4	4	4	4	4	3	4	4	4	0	4	3	0	33.00
	4	4	4	4	4	4	4	2	3	3	2	4	4	4	4	59.00
	4	4	4	4	4	4	3	4	4	4	3	3	4	3	2	52.00
	4	4	4	4	4	3	3	4	3	4	4	3	4	2	4	56.00
	4	4	2	4	4	4	4	4	2	4	3	4	4	1	4	54.00
	4	4	4	4	4	4	3	4	4	4	4	4	4	4	3	55.00
	4	4	4	4	4	4	4	4	4	4	2	3	4	4	4	57.00
	4	4	4	4	4	4	4	2	4	4	3	4	4	3	4	56.00
AVERAGE:	4	3	3	4	3	3	3	3	3	3	3	3	4	3	3	54.70

Identifies upper and lower case letters out of sequence

Matches partner letters

Identifies initial, final and medial consonants

Uses initial consonants to decode

Uses final consonants to decode

Distinguishes between real and imaginary events

Selects appropriate title for a story

Follows simple written directions

Identifies rhyming words

Identifies short and long vowel sounds

Writes word for one syllabe word

Matches components of a contraction

Identifies digraphs and blends with sounds

Identifies three sounds of y

Puts words in alphabetical order to the first letter

SIGE 61
T = 52.02
S = 6.10
+ = 57
- = 39

65

FIRST WRITING '87

	SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9	SK10	TOTAL
	4	4	4	4	4	0	4	0	3	4	31.00
	4	4	4	4	4	3	3	1	0	4	31.00
	4	4	3	4	4	4	2	1	0	4	30.00
	4	4	4	4	4	4	1	0	2	4	31.00
	4	4	4	4	4	4	3	3	1	4	35.00
	4	4	2	4	2	2	3	0	0	4	25.00
	4	4	4	4	4	4	4	2	2	4	36.00
	4	4	4	4	4	4	2	0	1	4	31.00
	4	4	4	4	4	4	4	3	4	4	39.00
	4	4	4	4	4	4	3	0	1	4	32.00
	4	3	4	4	4	4	4	0			27.00
	4	4	4	4	4	4	3	0	1	4	32.00
	4	4	4	4	4	4	4	0	2	4	34.00
	4	4	3	4	4	4	2	0			25.00
	4	4	4	4	4	4	4	0	1	4	35.00
	4	4	4	4	4	4	3	0	0	4	29.00
	4	4	4	4	4	4	4	1	3	4	36.00
	4	4	3	4	4	4	3	0	1	4	31.00
	4	4	4	4	4	4	4	0	2	4	34.00
	4	4	4	4	4	4	1	1	1	4	31.00
	4	4	3	4	4	4	3	0	1	4	31.00
	4	4	4	4	4	4	2	0	0	4	30.00
	4	4	4	4	4	3	2	0	0	2	29.00
	4	4	4	4	4	4	2	0	1	4	31.00
AVERAGE:	4	3	3	4	3	3	2	0	1	3	31.50

Writes own name

Reproduces words from recall

Writes new words phonetically

Identifies literal meaning of a sentence

Understands relationships between words in a group of words

Understands time and tense

Reproduces a simple story

Presents a piece of writing with an opening and a conclusion

Introduces detail as appropriate

Makes letter forms correctly

FIRST WRITING '87

	SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9	SK10	TOTAL
	4	4	4	4	4	4	4				28.00
	4	4	4	4	4	3	4	0	1	0	32.00
	4	4	4	4	4	4	4	0	0	4	32.00
	4	4	4	4	4	1	4	0	1	0	30.00
	4	4	4	4	4	4	4	0	1	0	29.00
	4	4	4	4	4	3	4	0	1	0	30.00
	4	4	4	3	4	3	4	0	1	4	33.00
	4	4	4	4	4	0	3	1	1	0	26.00
	3	4	4	4	4	4	3	1	1	0	24.00
	4	4	4	4	4	3	4	0	1	0	26.00
	4	4	3	4	4	4	3	1	0	0	31.00
	4	4	4	4	3	3	3	0	1	0	26.00
	4	4	4	4	4	4	3	0	1	0	28.00
	4	4	1	4	3	4	0	0	0	0	28.00
	4	4	4	4	4	4	3	0	0	0	20.00
	4	4	4	4	4	4	3	0	0	0	22.00
	4	4	4	4	4	4	3	0	1	0	29.00
AVERAGE:	3	4	3	3	3	3	3	0	0	0	27.70

Writes own name

Reproduces words from recall

Writes new words phonetically

Identifies literal meaning of a sentence

Understands relationships between words in a group of words

Understands time and tense

Reproduces a simple story

Presents a piece of writing with an opening and a conclusion

Introduces detail as appropriate

Makes letter forms correctly

FIRST WRITING '87

	SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9	SK10	TOTAL
	4	4	4	4	4	4	3	0	1	4	32.00
	4	3	4	4	4	3	3	0	0	4	29.00
	4	4	4	4	4	4	3	1	0	4	32.00
	4	4	4	4	4	4	3	0	1	4	32.00
	4	4	4	4	4	4	3	0	1	4	32.00
	4	4	2	4	3	2	0	0	1	4	33.00
	4	4	4	4	4	4	4	3	0	4	23.00
	4	4	4	4	4	4	4	0	1	4	36.00
	4	4	4	4	4	4	3	1	1	4	33.00
	4	4	4	4	4	4	4	0	1	4	33.00
	4	4	4	4	4	3	3	1	2	4	33.00
	4	4	4	4	4	4	4	0	1	4	33.00
	4	4	2	4	4	4	4	0	0	4	30.00
	4	4	4	4	4	4	3	0	1	4	32.00
	4	4	4	4	4	4	3	0	1	4	32.00
	4	4	4	4	4	4	4	0	1	0	30.00
AVERAGE:	4	3	3	4	3	3	3	0	0	3	31.30

Writes own name

Reproduces words from recall

Writes new words phonetically

Identifies literal meaning of a sentence

Understands relationships between words in a group of words

Understands time and tense

Reproduces a simple story

Presents a piece of writing with an opening and a conclusion

Introduces detail as appropriate

Makes letter forms correctly

N = 61

$\bar{X}$ = 30.33

S = 3.62

H = 39

L = 20

Appendix G

Characteristics of the Writing to Read Program

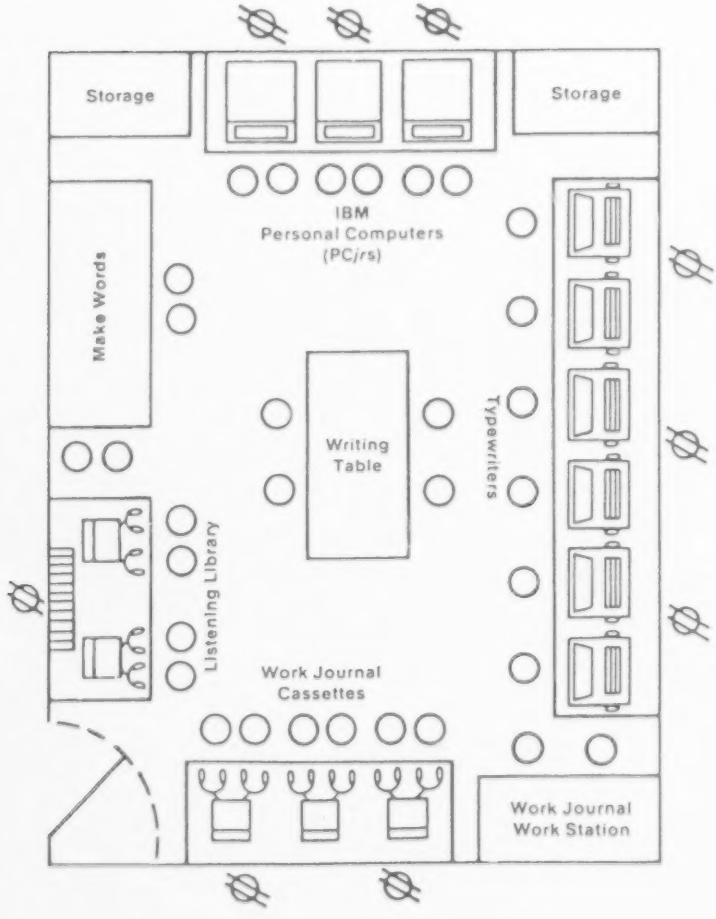
Typical Floor Plan for a Writing to Read Center
Teacher Planning and Assignments
Outcomes for Children; Writing to Read
Writing to Read References
Writing to Read Spelling Transitions
Writing to Read Spelling Transfers

Typical Floor Plan For
Writing To Read Learning Center

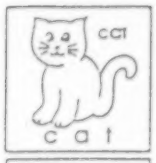
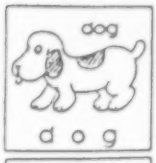
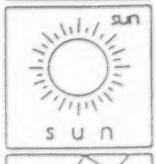
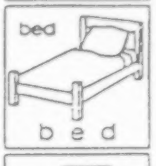
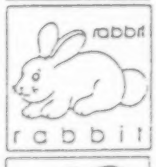
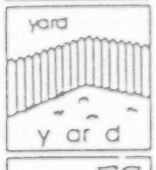
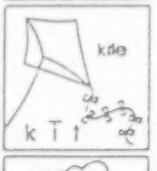
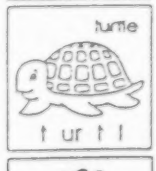
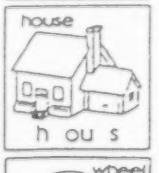
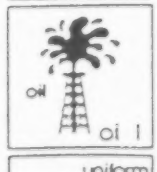
- Space

  The size of the room depends on the resources of your school and on the number of children in the largest class participating in the Writing to Read System. Since the entire class goes to the Center at one time, a regular size classroom is highly recommended. Ample space allows students to move independently and to work at a variety of activities without disturbing each other.

  Here's a typical floorplan:



Introduction of 42 Phonemes

CYCLE	LESSON	LESSON	LESSON	PHONEMES INTRODUCED	NUMBER
1.				a, c, d, f, g, i, o t, sh	9
2.				b, e, n, p, s, u	6
3.				l, r, th, ē	4
4.				k, m, v, ā	4
5.				h, j, w	3
6.				y, ī, ar, oo	4
7.				z, ō, aw, er	4
8.				ou, ur, air, ch	4
9.				wh, oi, or	3
10.				ū	1

Butzin, S. M., Carreiro, P. R. Johnson, B., McCrudden L., Ryter, C. (1984). Writing to Read Teachers Manual.

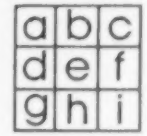
name _____ 8

computer		work journal	
1. turtle		1. turtle	
2. chair		2. chair	
3. house		3. house	
4. test		4. test	
5. make words		5. make words	

make words game			
typewriter			
listen to stories			

teacher's comments:

work completed _____
teacher signature

IBM Writing to Read by John Henry Martin	Computer	Work Journal	Writing/Typing	Listening Library	Make Words 		
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							

Week of _____ Student Name _____

IBM
Writing to Read
by John Henry Martin

ASSIGNMENT SHEET

B-2

Teacher _____ Room # _____

Computer

Work Journal

Writing/Typing

Listening Library

Make Words

a	b	c
d	e	f
g	h	i

Other

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Phonemic to Standard Spelling Transition

KINDERGARTEN

AUDITORY FOCUS
WRITING TO READ CENTER

Students learn to:

- Hear their own words as sequenced sounds
- Associate a print symbol with each sound
- Write print symbols in sequence to make words

VISUAL FOCUS
CLASSROOM

Students learn to:

- Read label names of people, places, things, and ideas
- Read class language charts and their own "favorite word" collection

WRITING TO READ AND CLASSROOM FOLLOW-THROUGH

Students do the following:

- Hear and see standard spelling as they listen to taped stories
- See standard spelling in computer lessons, Work Journals, Silly Sentences, and computer games
- See standard spelling in printed copies of songs and poems they learn in the classroom

GRADE ONE

STANDARD SPELLING TRANSITION

Teachers encourage students to:

- Use phonemic spelling so that they can write the "best word" for their first draft writing efforts
- Learn to use the dictionary for standard spelling as needed
- Practice standard spelling lessons when they are writing to the full extent of their vocabulary

Butzin, J. M., Garretson, P. R., Johnson, B., McCrudden L., Ryker, C. 1984). Writing to Read Teachers Manual

WRITING TO READ

SPELLING TRANSFER

The attached examples offer dramatic evidence that transfer from phonemic to standard spelling does occur for children who begin in kindergarten writing anything they can say as a result of being in the Writing To Read program.

Sandy Francis
November, 1985

IBM Information Binder

This story was written by Travis early in second grade, one morning when the room was full of visitors. Travis began Writing To Read as a kindergartener. The underlined words are spelled the standard way. If spelling transfer had not occurred Travis would have spelled them as listed phonemically.

This example is suggested as evidence that spelling transfer from phonemic to standard does occur for those children who began writing phonemically through Writing To Read.

Travis
September 27th

What Makes Me Mad

It makes me mad when my brother gets all the atinchion. He has red hair blue eyes freckels on his face. It makes me mad when we get in a fight and when I hit him and he starts to laugh. His name is Callum. It also makes me mad when one of my dog jumps up and gives me a bloody nose.

STANDARD	PHONEMIC
what	wot
makes	māks
my	mī
brother	bruther
all	awl
has	haz
blue	bloo
eyes	īz
his	hiz
face	fās
fight	fīt
laugh	laf
name	nām
also	awlsō
gives	givz
bloody	bludē
nose	nōz

Sandy Francis
November, 1985

This is a 1983 kindergarten sample of LaMar's writing that contains a large number of words spelled phonemically. Two years later LaMar was asked to write this same story from dictation. He was not told why, nor shown the k sample. The dialect in his original story was noticed, and LaMar's initial instructions were to write everything dictated and that if anything said was incorrect he could change it. Notice that he changed "I is" to "I am." Notice also that there has been complete transfer to standard spelling of these words. After he finished writing from dictation he was shown his original k story. He was amazed and proud!

(A story about E.T.)

2/83

I whel col hom on the fon I is rede two com hom. I whel fli hom in mi fli in sawcer.

1985

LaMar Walker

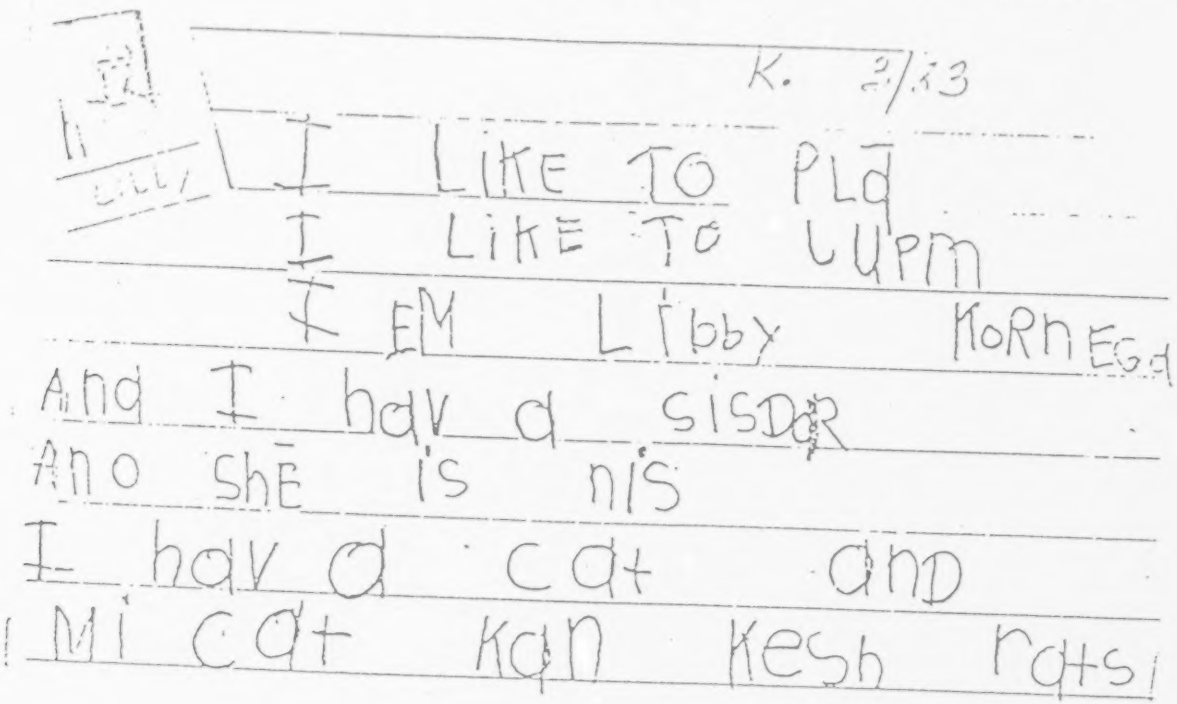
I will call home on the phone.

I am ready to come home.

I will fly home in my flying saucer.

86 S.Francis

This is a 1983 kindergarten sample of Libby's writing that contains a large number of words spelled phonemically. Two years later Libby was asked to write this same story from dictation. She was not told why, nor shown the k example. Notice that there has been complete transfer to standard spelling of these words. After writing from dictation, she was shown her original kindergarten story. She was thrilled!



K. 2/83

I LIKE TO PLĀ
I LIKE TO LUPM
I EM LIbby KORNEGA
And I hav a SISDR
Ano shE is nIS
I hav a cat and
Mi cat kan kesh rats

Libby kornega

I like to play. I like to jump.

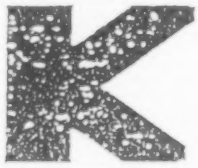
I am Libby kornega and I have a sister and she is nice.

I have a cat and my cat can catch rats.

Appendix H

Objectives and Criterion Referenced Tests

OBJECTIVE REFERENCED



Reading
EVALUATION SYSTEM

NAME _____

STUDENT NO. _____ DATE _____

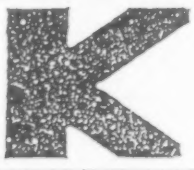
TEACHER _____

SCHOOL _____

SCORE

SKILL	SKILLS	SCORE	MASTERY
1.	Sees likeness and differences		
2.	Recognizes upper case letters out of sequence		
3.	Recognizes lower case letters out of sequence		
4.	Knows alphabet in sequence		
5.	Mathces upper and lower case letters		
6.	Knows rhyming pictures		
7.	Classifies		
8.	Recalls sequence of stories read aloud		
9.	Predicts outcomes		
10.	Understands left and right		
11.	Recognizes and uses initial consonants		
12.	Recognizes and uses final consonants		
13.	Short vowel sound to picture		
14.	Recognizes eight basic color words		

OBJECTIVE REFERENCED



Writing

EVALUATION SYSTEM

NAME _____

STUDENT NO. _____ DATE _____

TEACHER _____

SCHOOL _____

SCORE

SKILL #	SKILLS	SCORE	MASTERY
1.	Writes first and last names	____	____
2.	Reproduce three letter words (short vowels) (ex.: bat, dog, can, bed, sit, cut)	____	____
3.	Reproduce letters as examiner calls them out	____	____
4.	Copies simple sentence (1 and 2 sentences)	____	____
5.	Has a sense of a sentence as a complete unit of discourse	____	____
6.	Writes ABC's in sequence	____	____

OBJECTIVE REFERENCED

Writing

EVALUATION SYSTEM

NAME _____

STUDENT NO. _____ DATE _____

TEACHER _____

SCHOOL _____

SCORE

ITEMS	SKILLS	SCORE	MASTERY
1.	Writes own name	____	____
2.	Reproduces words from recall	____	____
3.	Writes new words phonetically	____	____
4.	Identifies literal meaning of a sentence	____	____
5.	Shows understanding of relationships between words in a group of words	____	____
6.	Shows a rudimentary understanding of time and tense	____	____
7.	Reproduces a simple story	____	____
8.	Presents a piece of writing with an opening and a conclusion	____	____
9.	Introduces detail as appropriate	____	____
10.	Makes letter forms correctly	____	____

OBJECTIVE REFERENCED

Writing
EVALUATION SYSTEM

NAME _____

STUDENT NO. _____ DATE _____

TEACHER _____

SCHOOL _____

SCORE

ITEMS	SKILLS	SCORE MASTERY
1.	Writes own name	____ ____
2.	Reproduces words from recall	____ ____
3.	Writes new words phonetically	____ ____
4.	Identifies literal meaning of a sentence	____ ____
5.	Shows understanding of relationships between words in a group of words	____ ____
6.	Shows a rudimentary understanding of time and tense	____ ____
7.	Reproduces a simple story	____ ____
8.	Presents a piece of writing with an opening and a conclusion	____ ____
9.	Introduces detail as appropriate	____ ____
10.	Makes letter forms correctly	____ ____

East Gibson School Corporation
Oakland City, IN 47670